

We claim:

1. A wheeled carriage for supporting a patient in a substantially horizontal position, comprising:

a patient support having a length, opposing ends of the length comprising a head end and a foot end of said patient support, said patient support having a pair of lateral sides intermediate the head and foot ends;

a wheeled base having a length and supporting said patient support and enabling movement of said patient support, said wheeled base including at least four floor surface engaging and castered wheels spaced from one another;

an auxiliary wheel assembly secured to said wheeled base and including a rotatable support shaft with an axis transverse to the length of said wheeled base and a stop element mounted to said rotatable support shaft, said auxiliary wheel assembly further including:

an auxiliary wheel support bracket having a first end rotatably secured to said support shaft to enable free rotation about the axis of said support shaft, said auxiliary wheel support bracket having a stop thereon;

an auxiliary wheel support spring for continually urging said auxiliary wheel support bracket in a first direction about the axis of said support shaft and said stop into engagement with said stop element;

at least one auxiliary wheel rotatably secured to a second end of said auxiliary wheel support bracket; and

a deployment apparatus for rotating said support shaft and said stop element in the first direction about its axis to move said auxiliary wheel between a stowed position spaced from a floor surface and a deployed position engaging the floor;

wherein in the deployed position said auxiliary wheel contacts the floor surface and the mass of said wheeled carriage is applied against said auxiliary wheel support spring to separate said stop from said stop element and pivot said auxiliary wheel support bracket about the axis of said support shaft so that each of said castered wheels and said at least one auxiliary wheel maintain contact with the floor surface.

2. The wheeled carriage according to Claim 1, wherein said auxiliary wheel assembly includes a wheel stowing spring applying a rotational force to said support shaft for maintaining said auxiliary wheel at the stowed position away from the floor surface, said stop of said auxiliary wheel support bracket contacting said stop element secured to said support shaft when said auxiliary wheel is in the stowed position.

3. The wheeled carriage according to Claim 2, wherein said wheel stowing spring comprises a torsion spring located about an end of said support shaft.

4. The wheeled carriage according to Claim 1, wherein said deployment apparatus comprises:

a control shaft rotatably secured to said wheeled base and extending the length thereof;  
at least one manipulative member secured to at least one end of said control shaft; and  
a linkage secured to said control shaft.

5. The wheeled carriage according to Claim 4, wherein said deployment apparatus comprises a cam

apparatus secured to said auxiliary wheel assembly and joined to said linkage.

6. The wheeled carriage according to Claim 5, wherein said cam apparatus includes a cam follower fixedly secured relative to said auxiliary wheel support shaft,

whereby operation of said manipulative member controls said cam apparatus to move said cam follower and pivot said support shaft about its axis so that said auxiliary wheel moves into contact with the floor surface.

7. The wheeled carriage according to Claim 6, wherein said cam apparatus additionally includes:

a cam pivot block secured to said auxiliary wheel assembly; and

a cam member pivotably secured to said cam pivot block and having a first end secured to said linkage with a second opposing end and a portion of a side defining a cam surface,

wherein operation of said manipulative member rotates said control shaft, which moves said linkage to pivot said cam member so that said cam follower advances along the cam surface to pivot said support shaft against the force of a wheel stowing spring maintaining said auxiliary wheel in the deployed position, the cam surface including a depression at the end of said cam member shaped to receive said cam follower therein and lock the rotation position of said support shaft with said auxiliary wheel contacting the floor surface.

8. The wheeled carriage according to Claim 5, wherein said auxiliary wheel assembly includes a wheel stowing spring for applying a rotational force to said support shaft for maintaining said auxiliary wheel at the stowed position away from the floor surface, said stop of said auxiliary wheel support bracket contacting said stop element when said auxiliary wheel is in the stowed position.

9. The wheeled carriage according to Claim 1, wherein in the deployed position said auxiliary wheel support spring is configured to maintain said auxiliary wheel and each of said castered wheels in contact with the floor surface as the wheeled carriage advances along an uneven floor surface.

10. The wheeled carriage according to Claim 1, wherein said auxiliary wheel support spring is configured as a torsion spring secured to said auxiliary wheel bracket.

11. The wheeled carriage according to Claim 10, wherein coils of said auxiliary wheel support spring are positioned about said rotatable support shaft to provide a compact arrangement.

12. The wheeled carriage according to Claim 1, wherein said auxiliary wheel support bracket includes a bumper secured thereto to assist said auxiliary wheel moving over raised objects on the floor surface.

13. The wheeled carriage according to Claim 1, wherein said stop of said auxiliary wheel support bracket

for contacting said stop element comprises a stop mounting pin secured to said auxiliary wheel support bracket and a rubber stop member at an end thereof to dampen contact between said stop and said stop element when said auxiliary wheel moves to the stowed position from the deployed position.

14. The wheeled carriage of Claim 1, wherein said at least one auxiliary wheel has a plane of rotation that is oriented in axial alignment with the length of said patient support, said auxiliary wheel support bracket preventing movement of the plane of rotation of said auxiliary wheel out of axial alignment with the length of said patient support.

15. A wheeled carriage for supporting a patient in a substantially horizontal position, comprising:

a patient support having a length, opposing ends of the length comprising a head end and a foot end of said patient support, said patient support having a pair of lateral sides intermediate the head and foot ends;

a wheeled base having a length and supporting said patient support and enabling movement of said patient support, said wheeled base including at least four floor surface engaging and castered wheels spaced from one another;

an auxiliary wheel assembly secured to said wheeled base and including a rotatable support shaft with an axis and a stop element mounted to said rotatable support shaft, said auxiliary wheel assembly further including:

an auxiliary wheel support bracket having a first end rotatably secured to said support shaft to enable

rotation about the axis of said support shaft, said auxiliary wheel support bracket having a stop thereon;

an auxiliary wheel support spring for continually urging said auxiliary wheel support bracket in a first direction about the axis of said support shaft and said stop into engagement with said stop element;

at least one auxiliary wheel rotatably secured to a second end of said auxiliary wheel support bracket;

a shaft spring secured at an end of said rotatable support shaft for continually urging said rotatable support shaft to a position whereat said auxiliary wheel is spaced from a floor surface; and

a deployment apparatus for rotating said rotatable support shaft and said stop element in said first direction about its axis against said shaft spring to move said auxiliary wheel between a stowed position spaced from the floor surface and a deployed position engaging the floor surface;

whereby in the deployed position, when said auxiliary wheel contacts the floor surface, said auxiliary wheel and said auxiliary wheel support bracket pivot about the axis of said support shaft so that said stop and stop element separate and each of said castered wheels and said at least one auxiliary wheel maintain contact with the floor surface.

16. The wheeled carriage according to Claim 15, wherein said auxiliary wheel support bracket is substantially horizontal when said auxiliary wheel is in the stowed position.

17. The wheeled carriage according to Claim 15, wherein said auxiliary wheel support spring comprises a

force applying torsion spring secured to said auxiliary wheel support bracket and including coils receiving said rotatable support shaft therein.

18. The wheeled carriage according to Claim 15, wherein said shaft spring comprises a force applying torsion spring secured between said auxiliary wheel assembly and said wheeled base.

19. The wheeled carriage according to Claim 15, wherein said deployment apparatus comprises:

a control shaft rotatably secured to said wheeled base and extending the length thereof;

at least one manipulative member secured to at least one end of said control shaft;

a linkage secured to said control shaft.

a cam pivot block secured to said auxiliary wheel assembly;

a cam member pivotably secured to said cam pivot block and having a first end secured to said linkage and a second end and a portion of a side having a cam surface; and

a cam follower fixedly secured to an opposing end of said stop element which is secured to said support shaft,

whereby operation of said manipulative member controls said linkage to pivot said cam member, said cam member moving said cam follower to rotate said support shaft about its axis in opposition to said shaft spring so that said auxiliary wheel moves downwardly and into contact with the floor surface.